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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,933	03/30/2004	Nicholas I. Buchan		7929

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EXAMINER

JOHNSON, CONNIE P

ART UNIT	PAPER NUMBER
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1795

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01/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/814,933	Applicant(s) BUCHAN ET AL.	
	Examiner Connie P. Johnson	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 11, 12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-23 is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12 and 14 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 10/23/2007 have been entered and fully considered.
2. Claims 1-3, 11-12 and 14-23 are presented.
3. Claim 13 is cancelled.
4. Claims 1-3, 17-21 and 23 are amended.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lille, U.S. Patent No. 6,725,526 B2 in view of Davis et al., U.S. Patent No. 6,821,626 B1.

Lille teaches a suspension assembly with a base, formed from silicon wafer (stiffener layer), a sacrificial layer (cushion layer), which is less stiff than the silicon wafer and subsequently formed over the silicon wafer. Further, in column 5, lines 28-31, Lille teaches an elastomeric polydimethylsiloxane (PDMS) layer that is transferable and covers the sacrificial layer (cushion layer). The assembly may also include a photoresist

layer over the PDMS layer. In figure (4), Lille shows the transfer film (14) is removed from the master and a resin-polymer layer (16) is applied to the transfer film. The resin-polymer layer is representative of the photoresist layer. Lillie does not teach that the sacrificial layer (cushion layer) comprises silicone rubber.

However, Davis teaches a fuser member comprising a core, a base cushion layer that has a thickness of 0.6-5.0mm (col. 7, lines 56-58) and an outer layer. The cushion layer comprises silicone rubber and is capable of providing flexible support of the outer layer (col. 7, line 65 and col. 8, lines 55-57). Davis teaches that the fuser member may comprise additional layers (col. 8, lines 35-42). It would have been obvious to one of ordinary skill in the art to use the cushion layer of Davis in the assembly of Lille because silicone rubber is used in the cushion layer of Davis to increase resilience (elasticity) of the fuser member.

7. Claims 11 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lille (above) in view of Davis (above) and further in view of Drake et al., U.S. Patent No. 6,200,882 B1.

Lille teaches a suspension assembly with a base, formed from silicon wafer (stiffener layer), a sacrificial layer (cushion layer), a layer comprising polydimethylsiloxane (PDMS) formed on the sacrificial layer and a photoresist as relied upon above. Lille nor Davis teach the thickness of the stiffener and transfer layers.

However, Drake teaches a mirror assembly comprising a substrate (stiffener layer) with a thickness of 75 to 600 microns (0.75 to 6.0mm) (col. 9, line 22). The

substrate has an upper planar surface (cushion layer) with the same thickness as the substrate of 75 to 600 microns (.75 to 6.0 mm) (col. 9, line 24). The thickness of 75 to 600 microns meets the limitations of the thickness of 0.1 to 1.0mm for the stiffener layer as in instant claim 14. The reference also teaches that the mirror assembly comprises a PSG layer (transfer layer) on top of the upper layers with a thickness of 8 to 13 microns (col. 11, line 19). Drake also teaches a photoresist layer over the layers (col. 19, line 23-25). It would have been obvious to one of ordinary skill in the art to use the layers of Lille with the thickness taught by Drake because Drake teaches the upper planar layer and substrate as being thicker to support the thinner, polysilicon layer.

8. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al., 2003/0197978 A1.

Otsuka teaches a magnetic head slider comprising a plurality of slide rails (page 12, [0205]). The slide rails are representative of transfer pads as in figure 7 and 8. Figures 17A-17F shows layers of the magnetic head slider. The magnetic head slider has alternating layers of a carbon film (polymer layer) and an intermediate layer (cushion layer). The top carbon film layer is representative of the covertape. The carbon film also comprises a layer of photoresist on the carbon film (see figure 17B). Otsuka does not teach that the alternating layers comprise polydimethylsiloxane or silicone rubber.

However, Bietsch teaches a mechanical releasable slider comprising PDMS based layers ([0023]). The PDMS or silicone rubber is advantageous in resist compositions because of its rubber-elastic properties. Therefore, it would have been

obvious to one of ordinary skill in the art to use the PDMS and silicone rubber in the alternating layers of Otsuka because the rubber-elastic properties are advantageous in resist compositions as taught by Bietsch.

Response to Arguments

10. Applicant's arguments filed 10/23/2007, with respect to the rejection(s) of claim(s) 1-3 under 102(e) and claims 11-23 under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new ground(s) of rejection are made herein.

11. Applicant argues that Lille does not teach a transfer layer, transferable photoresist layer on the outer surface of the transfer layer and a cushion layer in that order.

Applicant is directed to column 4, lines 58-67 wherein Lille teaches a layer comprising polydimethylsiloxane is cured to crosslink the polymer and is removed from the wafer substrate by peeling the PDMS layer from the substrate. Further, in column 5, lines 28-31, Lille teaches that the PDMS layer is transferred to cover the sacrificial layer. Since Lille teaches a layer comprising the PDMS material, the PDMS layer of Lille is capable of performing as a transfer layer. In addition, figure (4) shows the transfer film (14) is removed from the master and a resin-polymer layer (16) is applied to the transfer film. The resin-polymer layer is representative of the photoresist layer. Therefore, Lille definitely teaches a transfer film with a photoresist layer applied thereon.

12. Applicant argues that Lille does not teach that the PDMS layer may be used to perform as a transfer layer.

In the new 103(a) rejection, Lille teaches that the PDMS layer is under the photoresist and is capable of performing as a transfer layer. That the PDMS layer is "transferable" is intended use. Since Lille teaches a layer comprising polydimethylsiloxane material, the PDMS layer is capable of transferring the photoresist.

13. Applicant argues that the silicon wafer of Lille does not comprise silicone rubber.

In the new 103(a) rejection, Davis teaches a cushion layer comprising silicone rubber and is capable of providing flexible support of an outer layer (col. 7, line 65 and col. 8, lines 55-57).

14. Applicant argues that the silicon wafer layer of Drake is equated to the stiffener layer of claims 2 and 14. Further, that Drake does not teach a silicone rubber layer.

In the new 103(a) rejection, Drake teaches a substrate (stiffener layer), upper planar layer (cushion layer), PSG layer (transfer layer) and a photoresist over the layers. Therefore, Drake definitely teaches the layers in the same order as claimed. Further, Drake is not relied upon for a silicone rubber layer. Also, Davis teaches a silicone rubber layer as claimed in the 103(a) rejection of Lille in view of Davis.

15. Applicant argues that the layer thickness of Drake is for non-analogous elements.

Drake teaches that the substrate has a thickness of 75 to 600 microns (0.75 to 6.0mm) (col. 9, line 22). The substrate has an upper planar surface (cushion layer) with the same thickness as the substrate of 75 to 600 microns (.75 to 6.0 mm) (col. 9, line 24). The thickness of 75 to 600 microns meets the limitations of the thickness of 0.1 to 1.0mm for the stiffener layer as in instant claim 14. The reference also teaches that the mirror assembly comprises a PSG layer (transfer layer) on top of the upper layers with a

thickness of 8 to 13 microns (col. 11, line 19). Therefore, the layer thickness of Drake is definitely analogous to the elements in claims 11, 12 and 14.

16. Applicant argues that the mounting tape of Drake is not comparable to applicants' claimed cover tape because Drake does not teach a silicone rubber layer nor any other element of claim 1.

Applicants' argument is persuasive. Claims 15 and 16 are currently objected to as being dependent upon a rejected base claim.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Connie P. Johnson whose telephone number is 571-272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Connie P. Johnson
Examiner
Art Unit 1795